APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/342,917	06/30/1999	HIROAKI SUGIURA	862.2900	7289

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EXAMINER
HAVAN, THU THAO

ART UNIT	PAPER NUMBER
2672	L8

DATE MAILED: 09/25/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 07-01)

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *three* MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 July 2003* .

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3-6,11 and 12* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1, 3-6, and 11-12* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .

4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 103

1.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

2.   Claims **1, 3-6, and 11-12** are rejected under 35 U.S.C. 103(a) as being

unpatentable over Komaki (US patent no. 5,883,821) in view of Kasson et al. (US patent

no. 5,390,035).

Re claim **1**, Komaki teaches a data conversion method of performing image

processing on image data expressed in plural components by using a multi-dimensional

look-up table and outputting processed image data comprising the steps of setting grid

positions of the multi-dimensional look-up table, obtaining output data of grid points of

the multi-dimensional look-up table which corresponds to the input image data (col. 1,

lines 51-67); generating a weight table to store weight values corresponding to the

plural components based on the set grid positions wherein the weight values are

calculated by an integer computation, obtaining the weight values corresponding to the

plural components of input image data by referring to the weight table (col. 9, lines 35-

44), calculating the processed image data which corresponds to the input image data by

interpolation using the obtained output data and the obtained weight values wherein the

interpolation is executed by an integer computation (col. 2, lines 10-30; col. 9, lines 35-

44). In other words, Komaki teaches data transformation corresponds to data

conversion as claimed. Data conversion is converting one data into another and data

transformation is converting data too. Furthermore, Komaki transform output data for a

point from a sample point such as a grid point in a three dimensional look-up table

(LUT). He teaches the input signals R, G, B is interpolated and the values are stored in

the look-up table (LUT). In addition, Komaki transform output data for a point from a

sample point such as a grid point in a three dimensional look-up table (LUT). Also, a

function must be determined for the purpose of converting pixel color representations

into known quantities of colored printer inks, typically with the amount expressed as an

integer in the range of 0 to 255 for each of cyan, magenta, yellow, and black. The

function accepts input values for the variables red, green, and blue, and produces

output values which represent quantities of cyan, magenta, yellow, and black. Other

color spaces in use as either input or output spaces include the colorimetric spaces

which represent color based on the tristimulus values that represent a standard

observer as defined by the Commission Internationale de l'Eclairage. CIE L*a*b*, CIE

L*u*v*, and CIE XYZ are three spaces.

Komaki *fails* to specifically disclose "normalized by a sufficiently large value," as

claimed. However, Kasson teaches normalization for data transformation (col. 22, lines

41-65; col. 23, lines 14-23 and lines 43-68; col. 9, lines 38-58; fig. 16). Kasson teaches

color conversion using a grid points by normalizing with the appropriate maximum

values for each dimensional of the color space in relations to tetrahedron packing.

Furthermore, a maximum value is any large value. In figure 16, Kasson graphically

teaches the normalized error using a function.

Therefore, taking the combined teaching of Komaki and Kasson as a whole, it would have been obvious to combine normalized by a sufficiently large value as claimed to the modified system of Komaki. Doing so would enable accuracy and efficiency without sacrificing speed or error performance.

Re claim **3**, Kasson discloses a sufficiently large value is a power of 2 (col. 2, lines 55-65; fig. 4). In other words, Kasson teaches a power of 2 for the normalization operation.

Re claim **4**, Komaki discloses grid points are set in non-uniformity and the grid positions corresponding to each of the components are set the same (fig. 2-3). In figures 2 and 3, Komaki discloses the grid points are equal to each other and he performs interpolation by dividing interpolation grid into equal size thus each position are the same.

Re claim **5**, Komaki discloses input value is image data in one of RGB, CMY, and XYZ color spaces (col. 1, lines 17-36 and 51-67; col. 9, lines 1-34). In other words, Komaki teaches input luminance signals RGB.

Re claim **6**, the limitation of claim 6 is identical to claim 1 above. Therefore, claim 6 is treated with respect to grounds as set forth for claim 1 above.

Re claim **11**, the limitation of claim 11 is identical to claim 1 above except for a computer program product comprising a computer readable medium having a computer program code. Therefore, claim 11 is treated with respect to grounds as set forth for claim 1 above except for a computer program product comprising a computer readable medium having a computer program code. As for a computer program product

comprising a computer readable medium having a computer program code, Komaki

teaches a program readable by a computer (col. 4, lines 57-59). When a computer has

program then executes to allow the coding to program the system.

Re claim **12**, the limitation of claim 12 is identical to claim 1 above except for a

computer readable medium recorded data. Therefore, claim 12 is treated with respect

to grounds as set forth for claim 1 above except for a computer readable medium

recorded data. As for a computer readable medium recorded data, Komaki teaches a

storage medium storing a program readable by a computer (col. 4, lines 57-59). A

program readable by a computer corresponds to a computer readable medium recorded

data. A recorded data is a stored data.

Inquiries

3.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Thu-Thao Havan whose telephone number is (703) 308-

7062. The examiner can normally be reached on Monday to Thursday from 9:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Michael Razavi can be reached on (703) 305-4713.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
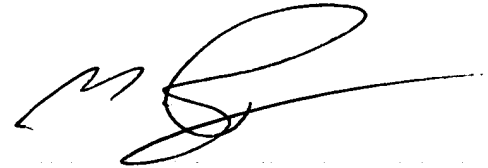
Washington, D.C. 20231

or faxed to:

(703) 872-9314 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal

Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or

proceeding should be directed to the Technology Center 2600 Customer Service Office

whose telephone number is (703) 306-0377.

Thu-Thao Havan
September 15, 2003

MICHAEL RAZAVI
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600